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RESULTS OF WESTERN HEMLOCK LOOPER EGG SURVEY

by

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The western hemlock looper, *Lambdina fiscellaria lugubrosa* Hulst, caused aerially visible defoliation on approximately 10,000 acres of State, private, and Federal forests of northern Idaho in 1972. This is the first report of noticeable defoliation by this insect in Region 1 since the late 1930's (Dewey et al. 1972).

In January of 1973 the overwintering egg population was sampled in an attempt to predict the defoliation potential of next year's looper population. Collections of materials from potential oviposition sites were made from five areas of known defoliation (fig. 1). Other areas were not reached because of adverse winter conditions.

In both Pacific-coastal and Northeastern areas of the United States, mosses growing on the tree trunk are a preferred substrate in which the moths deposit their eggs. Studies by Carolin et al. (1964) indicate that while the most preferred oviposition site is at midcrown, a number of eggs satisfactory for evaluation purposes can normally be found at breast height on the trunk.

In northern Idaho sample sites very few true mosses occur. Possible alternative oviposition substrates include a long stringy lichen known as "witches hair," a leaf-like foliose lichen, bark, and brush. The

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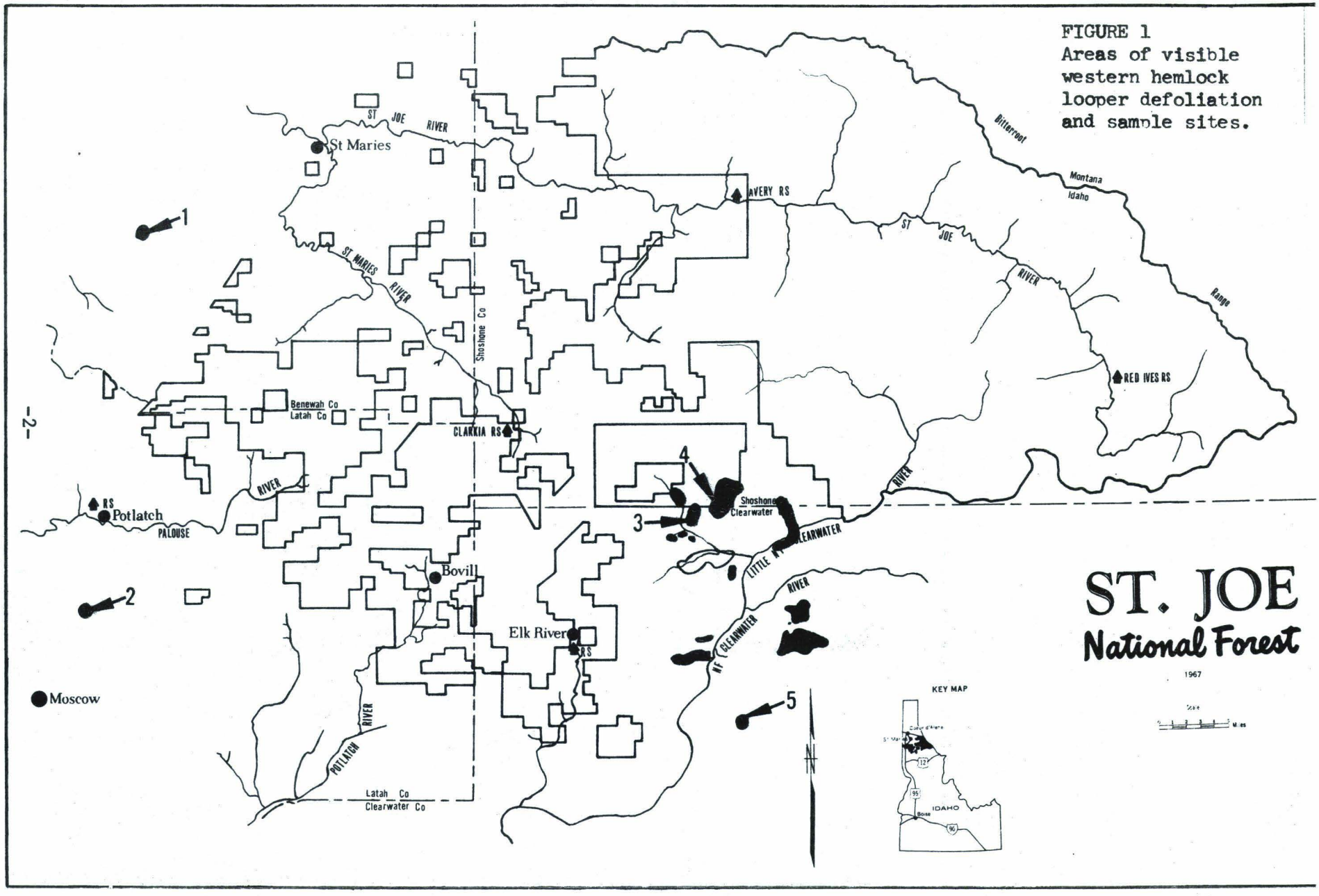
FIGURE 1
Areas of visible western hemlock looper defoliation and sample sites.
ST. JOE
National Forest
1967
KEY MAP
IDAHO
St Maries
ST JOE RIVER
ST MARIES RIVER
AVERY RS
Bitterroot
Montana
Idaho
Range
RED IVES RS
Shoshone Co
Benewah Co
Latah Co
CLARKIA RS
Potlatch
PALOUSE
RIVER
Bovill
Elk River
RS
Moscow
Shoshone
Clearwater
LITTLE NF CLEARWATER
NF CLEARWATER
POTLATCH
Latah Co
Clearwater Co
1
2
3
4
5
N

presence of these lichens was inconsistent, as was any particular species of brush. However, the "witches hair" was common to abundant in the crowns of taller grand fir trees in all sample areas.

In the collection sites, live crowns of mature grand fir ranged from 20 to 40 feet above ground level, making crown collections impossible without climbing or felling trees. Only tall, mature trees were found at sites 3, 4, and 5. Sites 1 and 2 contained immature trees, making lower crown collection possible.

At site 1, Lolo Pass near Benewah, and site 2, Moscow Mountain, no eggs were recovered although light defoliation was present. While hemlock looper larvae were reported in 1972 at site 1, much of the current defoliation at sites 1 and 2 could be from a known Douglas-fir tussock moth population. At site 3, along Stoney Creek, it was most difficult to obtain sample materials, and only 0 to 5 eggs per sample were found. Site 5 on Silver Creek also contained 0 to 5 eggs per sample. Site 4 on Floodwood Creek contained eggs in every sample, with numbers ranging from 5 to 35 per sample. Most eggs were found in the stringy lichen samples, with only a few in the leafy lichen samples, and none on bark or brush.

The small number of looper eggs recovered from this survey would seem to indicate damage in 1973 will not be extensive; however, it is felt that an untrue picture of egg population levels is presented by this study due to our inability to sample the upper tree levels.

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Dewey, Jerald E., William M. Ciesla, and Rudolph C. Lood, 1972. Status of the western hemlock looper in the Northern Region--1972. USDA Forest Serv., Northern Region, Div. of State and Priv. Forestry, Report No. 72-10.